

CD FY10 Budget and Tactical Plan Review

**FY10 Tactical Plan for
Computational Physics for Accelerators**

Tactical plan	DocDB#
FY10 Tactical Plan for Computational Physics for Accelerators (CPA)	CD-doc- 3349-v3

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FY10 Tactical Plan for *Computational Physics Tools and Applications/Computational Physics for Accelerators*

- Tactical Plan Leader: James Amundson

Project Activity List

- CPTA/CPA/General
- CPTA/CPA/Synergia
- PROJECT-X/Synergia/Main Injector modeling
- CPTA/CPA/CHEF
- CPTA/CPA/SciDAC management

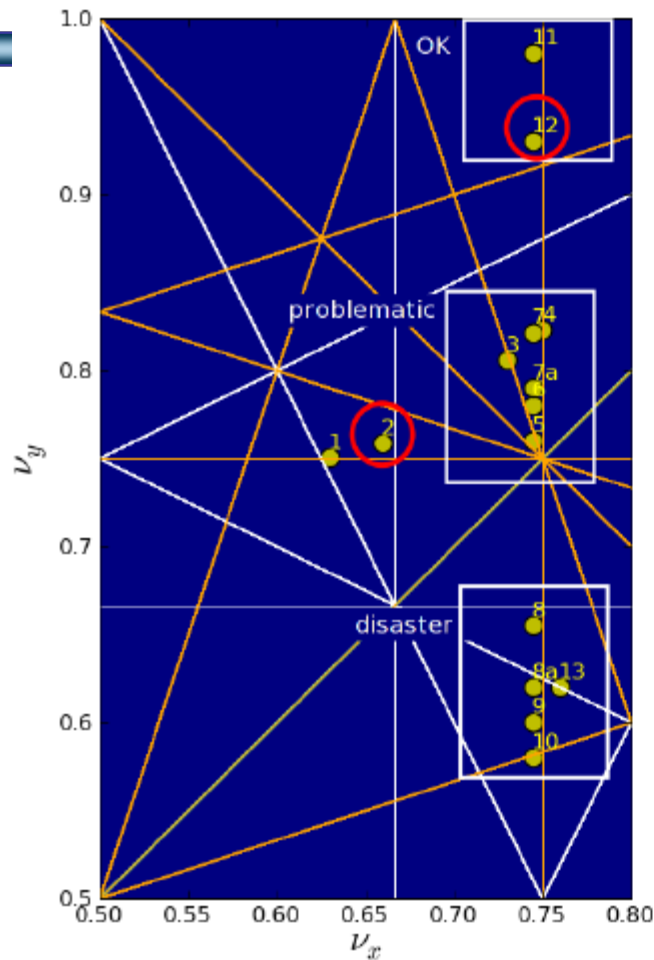
Project Activity: CPTA/CPA/General

- Goals Related to this Activity
 - 1. Maintain and develop group infrastructure
 - **Public web pages**
 - Technical web pages (Redmine server)
 - Cluster maintenance
 - Etc.
 - 2. Perform scientific presentations
 - Essential group activity
 - 3. Perform community outreach activities
 - E.g., accelerator physics lectures
- Key Milestones
 - Public web pages: http://cepa.fnal.gov/psm/aas/Advanced_Accelerator_Simulation.html
 - Technical web pages: <https://compacc.fnal.gov/projects>
 - Cluster statistics
 - Presentations given
 - Lectures delivered
- Issues and Risks (specific to this activity, includes allocation impact)
 1. **Technical web pages are well covered by our groups expertise and needs. The public web pages, however, really need help from web professionals. We seek Division guidance in planning this aspect of our activity.**

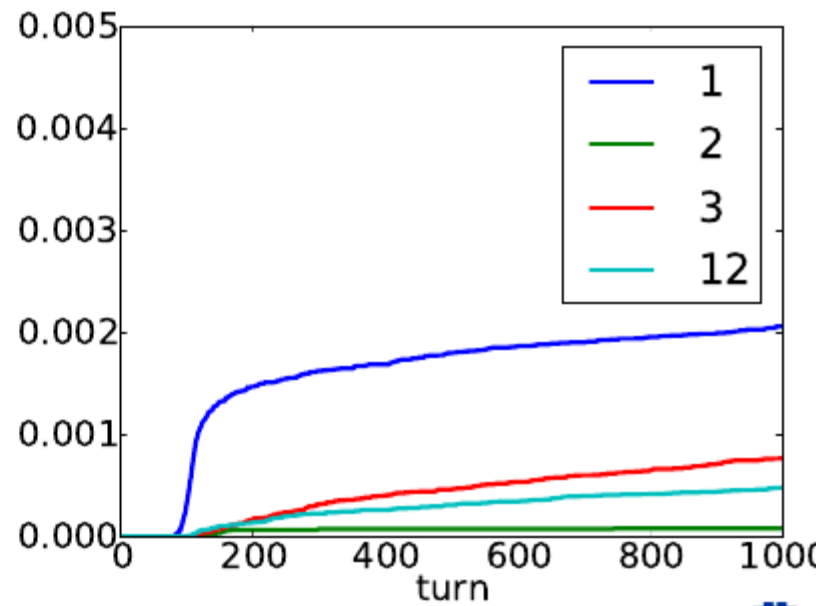
Project Activity: CPTA/CPA/Synergia

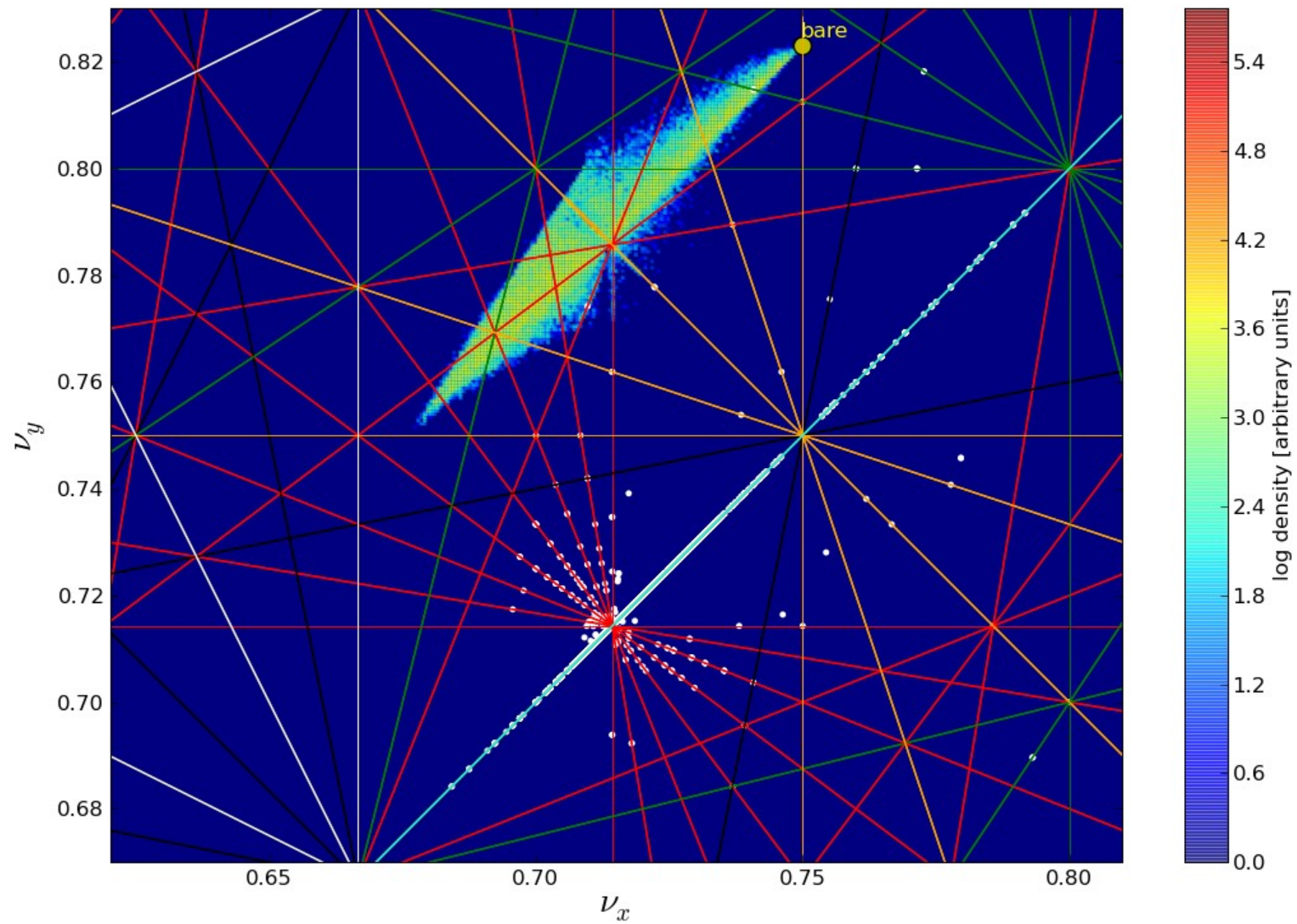
- Goals Related to this Activity
 - 1. Maintain and develop Synergia infrastructure
 - 2. Develop massively parallel multi-bunch capability
 - Part of INCITE proposal
 - 3. Further developed current capabilities
 - 4. Integrate/develop Synergia e-cloud module
 - 5. Validate
 - a) Milestones: Mu2e, Main Injector (space charge and e-cloud), and LARP simulations
 - 6. Provide user support
- Key Milestones
 - End-user release of Synergia
 - Multi-bunch demonstration
 - End-user documentation on web site
 - Simulations presented to relevant groups for Mu2e, Main Injector, etc.
- Project Documentation: <https://compacc.fnal.gov/projects/wiki/synergia2>
- Issues and Risks (specific to this activity, includes allocation impact)
 - Massive multi-bunch capability is crucial to INCITE proposal. If INCITE is not accepted, it will become less important

Tune scan summary



Losses for best points





Project Activity: PROJECT-X/Synergia/Main Injector modeling

- Goals Related to this Activity [from Tactical Plan]
 - 1. Produce simulations of the Main Injector for Project X
- Key Milestones
 - Simulations presented to Main Injector department, Project X meetings
- Project Documentation: <https://compacc.fnal.gov/projects/projects/show/mi-proj-x-sim>
- Issues and Risks (specific to this activity, includes allocation impact)
 - 1. This activity is receiving funding from Accelerator Division

Project Activity: CPTA/CPA/CHEF

- Goals Related to this Activity
 - 1. Maintain
 - 2. Support
 - 3. Document
- Key Milestones
 - Code review document
 - Code review changes implemented
 - Technical notes in Fermilab database
- Project Documentation: <https://compacc.fnal.gov/projects>
- Issues and Risks (specific to this activity, includes allocation impact)
 1. Scope of changes to be implemented will not be clear until code review report is delivered

Project Activity: CPTA/CPA/SciDAC management

- Goals Related to this Activity
 - 1. Provide leadership for SciDAC project (COMPASS)
- Key Milestones
 - Milestone: COMPASS projects meetings and reports
- Project Documentation: <https://compass.fnal.gov/>
- Issues and Risks (specific to this activity, includes allocation impact)
 - 1. Entire SciDAC2 project relying on this activity

FY10 FTE and M&S: Request vs. Allocation

Level 0/1 Activity: CPTA/CPA

Activity Level 2	Project or Service	Project Priority	FY10 FTE Request At Activity Level 2	FY10 M&S Request At Activity Level 2	FY10 FTE Allocation At Activity Level 2	FY10 M&S Allocation At Activity Level 2
Accelerator Modeling	Project	High		18000		
CD Management	Project	High	0.05			
CHEF	Project	High	0.8			
General	Project	High	0.3	20,000		
Group	Project	High		17,300		
Management	Project	High	0.1			
SciDAC2	Project	High	2.2	10,500		
Synergia	Project	High	1			
PROJECT-X/Synergia/Man	Project	High	0.5			
Total			4.95	\$65,800		

Tactical Plan Summary

- Computational Physics for Accelerators group has expanded its influence
 - New hire in the past year
 - Multiple simulation efforts being relied upon at the lab (Mu2e, Project X Main Injector)
 - Accelerator Division funds being used for part of our effort
- Still need guidance on public web page issue

